

## [CLAIMS]

1. A stimuable phosphor screen or panel comprising a phosphor layer  
5 and a support characterized in that an intermediate layer  
arrangement of an X-ray absorbing foil or layer and, farther from  
the support, a stimulated light reflecting foil is present  
between said support and said phosphor layer.
2. A stimuable phosphor screen or panel according to claim 1,  
10 wherein said intermediate layer arrangement comprises an X-ray  
absorbing layer, wherein as a lead compound an oxide or a  
hydroxide of lead metal is dispersed in a binder and wherein said  
binder containing the lead compound is a matrix of a  
polycondensation product of a metal alkoxide species.
- 15 3. A stimuable phosphor screen or panel according to claim 2,  
wherein said binder containing the lead compound is a matrix of  
an inorganic network of alkoxymetal substituted organic polymers  
or copolymers matrix.
- 20 4. A stimuable phosphor screen or panel according to claim 3,  
wherein said matrix is derived from a cross-linking agent  
selected from the group consisting of dialkoxysilanes,  
trialkoxysilanes, tetraalkoxysilanes, titanates, zirconates and  
aluminates; and a colloid of silica, and wherein said matrix  
comprises a colloid of an oxide or a hydroxide of lead metal.
- 25 5. A stimuable phosphor screen or panel according to claim 1,  
wherein said intermediate layer arrangement comprises, as an X-  
ray absorbing layer a layer of lead.
- 30 6. A stimuable phosphor screen or panel according to claim 1,  
wherein as a stimulated light reflecting foil an aluminum layer  
is present.

7. A stimuable phosphor screen or panel according to claim 2,  
wherein as a stimulated light reflecting foil an aluminum layer  
is present.
8. A stimuable phosphor screen or panel according to claim 3,  
5 wherein as a stimulated light reflecting foil an aluminum layer  
is present.
9. A stimuable phosphor screen or panel according to claim 4,  
wherein as a stimulated light reflecting foil an aluminum layer  
is present.
10. A stimuable phosphor screen or panel according to claim 5,  
10 wherein as a stimulated light reflecting foil an aluminum layer  
is present.
11. A phosphor screen or panel according to claim 1, wherein said  
support is selected from the group consisting of ceramics, glass,  
15 amorphous carbon, aluminum and polymeric films.
12. A phosphor screen or panel according to claim 6, wherein said  
support is selected from the group consisting of ceramics, glass,  
amorphous carbon, aluminum and polymeric films.
13. A phosphor screen or panel according to claim 1, wherein said  
20 intermediate layer arrangement has a surface that has been  
subjected to embossing for forming a fine concavo-convex pattern.
14. A phosphor screen or panel according to claim 6, wherein said  
intermediate layer arrangement has a surface that has been  
subjected to embossing for forming a fine concavo-convex pattern.
- 25 15. A phosphor screen or panel according to claim 11, wherein said  
intermediate layer arrangement has a surface that has been  
subjected to embossing for forming a fine concavo-convex pattern.

16. A phosphor screen or panel according to claim 12, wherein said intermediate layer arrangement has a surface that has been subjected to embossing for forming a fine concavo-convex pattern.
- 5 17. A phosphor screen or panel according to claim 1, having between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
18. A phosphor screen or panel according to claim 6, having between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
- 10 19. A phosphor screen or panel according to claim 11, having between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
20. A phosphor screen or panel according to claim 12, having between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
- 15 21. A phosphor screen or panel according to claim 1, having between said intermediate layer arrangement and the phosphor layer a moisture-repellent parylene layer.
22. A phosphor screen or panel according to claim 6, having between said intermediate layer arrangement and the phosphor layer a moisture-repellent parylene layer.
- 20 23. A phosphor screen or panel according to claim 11, having between said intermediate layer arrangement and the phosphor layer a moisture-repellent parylene layer.
24. A phosphor screen or panel according to claim 12, having between said intermediate layer arrangement and the phosphor layer a moisture-repellent parylene layer.
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25. A phosphor screen or panel according to claim 1, having between said intermediate layer arrangement and the phosphor layer and between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
- 5 26. A phosphor screen or panel according to claim 6, having between said intermediate layer arrangement and the phosphor layer and between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
- 10 27. A phosphor screen or panel according to claim 11, having between said intermediate layer arrangement and the phosphor layer and between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
- 15 28. A phosphor screen or panel according to claim 12, having between said intermediate layer arrangement and the phosphor layer and between said intermediate layer arrangement and the support a moisture-repellent parylene layer.
29. A phosphor screen or panel according to claim 1, wherein said phosphor is a binderless phosphor, having needle-shaped crystals.
- 20 30. A phosphor screen or panel according to claim 6, wherein said phosphor is a binderless phosphor, having needle-shaped crystals.
31. A phosphor screen or panel according to claim 11, wherein said phosphor is a binderless phosphor, having needle-shaped crystals.
32. A phosphor screen or panel according to claim 12, wherein said phosphor is a binderless phosphor, having needle-shaped crystals.
- 25 33. A binderless stimuable phosphor screen or panel according to claim 29, wherein said needle-shaped phosphor crystals are crystals of an alkali metal phosphor.

34. A binderless stimuable phosphor screen or panel according to claim 30, wherein said needle-shaped phosphor crystals are crystals of an alkali metal phosphor.

5 35. A binderless stimuable phosphor screen or panel according to claim 31, wherein said needle-shaped phosphor crystals are crystals of an alkali metal phosphor.

36. A binderless stimuable phosphor screen or panel according to claim 32, wherein said needle-shaped phosphor crystals are crystals of an alkali metal phosphor.

10 37. A binderless stimuable phosphor screen according to claim 29, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

15 38. A binderless stimuable phosphor screen according to claim 30, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

20 39. A binderless stimuable phosphor screen according to claim 31, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

25 40. A binderless stimuable phosphor screen according to claim 32, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

41. A binderless stimuable phosphor screen according to claim 33, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

42. A binderless stimuable phosphor screen according to claim 34, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

5 43. A binderless stimuable phosphor screen according to claim 35, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.

10 44. A binderless stimuable phosphor screen according to claim 36, wherein said alkali metal phosphor is a CsX:Eu stimuable phosphor, wherein X represents a halide selected from the group consisting of Br, Cl and I.